

Source Water Assessment Program (SWAP) Report

For

STOW MUNICIPAL BUILDING



Prepared by the
Massachusetts Department of
Environmental Protection,
Bureau of Resource Protection,
Drinking Water Program

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April 6, 2000

Table 1: Public Water System (PWS) Information

<i>PWS NAME</i>	STOW MUNICIPAL BUILDING
<i>PWS Address</i>	380 GREAT RD.
<i>City/Town</i>	STOW
<i>PWS ID Number</i>	2286022
<i>Local Contact</i>	GEORGE SCRAGGS
<i>Phone Number</i>	(978) 897-2193

<i>Well Name</i>	<i>Source ID#</i>	<i>Zone I (in feet)</i>	<i>IWPA (in feet)</i>	<i>Source Susceptibility</i>
Well #1	2286022-O1G	145	444	Moderate

What is SWAP?

The Source Water Assessment Program (SWAP), established under the federal Safe Drinking Water Act, requires every state to:

- ? inventory land uses within the recharge areas of all public water supply sources;
- ? assess the susceptibility of drinking water sources to contamination from these land uses; and
- ? publicize the results to provide support for improved protection.

Maintaining Your Good Water Quality

Susceptibility of a drinking water source does *not* imply poor water quality. Actual water quality is best reflected by the results of regular water tests.

Water suppliers protect drinking water by monitoring for more than 100 chemicals, treating water supplies, and using source protection measures to ensure that safe water is delivered to the tap.

INTRODUCTION

We are all concerned about the quality of the water we drink. Drinking water wells may be threatened by many potential contaminant sources, including septic systems, road salting, and improper disposal of hazardous materials. Citizens and local officials can work together to better protect these drinking water sources.

Purpose of this report:

This report is a planning tool to support local and state efforts to improve water supply protection. By identifying land uses within water supply protection areas that may be potential contaminant sources, the assessment helps focus protection efforts on appropriate best management practices (BMPs) and drinking water source protection measures. Department of Environmental Protection (DEP) staff are available to provide information about funding and other resources that may be available to your community.

This report includes:

1. Description of the Water System
2. Discussion of Land Uses within Protection Areas
3. Recommendations for Protection
4. Attached Map of the Protection Areas

1. DESCRIPTION OF THE WATER SYSTEM

The Well

The well for the facility is located on the south side of the new municipal building. The Stow Municipal building well has a Zone I of 145 feet and an Interim Wellhead Protection Area (IWPA) of 444 feet. The well is located in an aquifer with a high vulnerability to contamination due to the absence of hydrogeologic barriers that can prevent contaminant migration. Please refer to the attached map of the Zone I and IWPA.

What is a Protection Area?

A well's water supply protection area is the land around the well where protection activities should be focused. Each well has a Zone I protective radius and an Interim Wellhead Protection Area (IWPA).

- **The Zone I** is the area that should be owned or controlled by the water supplier and limited to water supply activities.

- **The IWPA** is the larger area that is likely to contribute water to the well.

In many instances the IWPA does not include the entire land area that could contribute water to the well. Therefore, the well may be susceptible to contamination from activities outside of the IWPA that are not identified in this report.

What is Susceptibility?

Susceptibility is a measure of a well's potential to become contaminated due to land uses and activities within the Zone I and Interim Wellhead Protection Area (IWPA).

The Water Quality

The well serving the facility has treatment to remove iron and manganese. For current information on monitoring results and treatment, please contact the Public Water System contact person listed above in Table 1.

2. DISCUSSION OF LAND USES IN THE PROTECTION AREAS

There are a number of land uses and activities within the drinking water supply protection areas that are potential sources of contamination.

Key issues include:

1. **Inappropriate activities in Zone I; and**
2. **Stormwater drains in the parking lot.**

The overall ranking of susceptibility to contamination for the well is Moderate, based on the presence of at least one moderate threat land use or activity in the IWPA.

1. **Zone I-** Currently, the well does not meet DEP's restrictions, which only allow water supply related activities in Zone Is. The facility's Zone I contains parking areas. Please note that systems not meeting DEP Zone I requirements must get DEP approval and address Zone I issues prior to increasing water use or modifying systems.
2. **Stormwater drains** – Stormwater drains are located within the IWPA. Stormwater drains are a potential source of contamination for the water supply because as flowing storm water travels, it picks up debris and contaminants from streets, parking areas and lawns. Common potential contaminants include lawn chemicals, pet waste, leakage from dumpsters, improperly dumped household hazardous waste, and contaminants from vehicle leaks, maintenance, washing or accidents.
3. **Aquatic wildlife** - A pond is located within the Zone I and IWPA. Ducks and other waste in and around the pond is a potential source of contamination in the water supply.

Table 2: Table of Activities within the Water Supply Protection Areas

Facility Type	Potential Contaminant Sources	Zone I	IWPA	Threat	Comments
Office Building (Municipal)	Parking lot	Yes	Yes	Moderate	Limit road salt usage and provide drainage away from wells
	Stormwater drain	No	Yes	Low	See recommendation

* -For more information on Contaminants of Concern associated with individual facility types and land uses please see the SWAP Draft Land Use / Associated Contaminants Matrix on DEP's website - www.state.ma.us/dep/brp/dws/.

Glossary

Zone I: The area closest to a well; a 100 to 400 foot radius proportional to the well's pumping rate. To determine your Zone I radius, refer to the attached map.

IWPA: A 400 foot to ½ mile radius around a public water supply well proportional to its pumping rate; the area DEP recommends for protection in the absence of a defined Zone I I. To determine IWPA radius, refer to the attached map.

Zone II: The primary recharge area defined by a hydrogeologic study.

Aquifer: An underground water-bearing layer of permeable material that will yield water in a usable quantity to a well.

Hydrogeologic Barrier: An underground layer of impermeable material that resists penetration by water.

Recharge Area: The surface area that contributes water to a well.

Recommendation:

- ✓ Discourage wildlife by prohibiting the feeding of ducks and wildlife in and around the pond.

Implementing the following recommendations will reduce the system's susceptibility to contamination.

3. PROTECTION RECOMMENDATIONS

Stow Municipal Building should review and adopt the following recommendations at the facility:

Zone I:

- ✓ Consider well relocation if Zone I threats cannot be mitigated.
- ✓ Redirect road and parking lot drainage away from the well.
- ✓ Work with appropriate department in the community to ensure that stormwater runoff in the IWPA is directed away from the well and is treated according to DEP guidance.

Facilities Management:

- ✓ Implement standard operating procedures regarding proper storage, use and disposal of hazardous materials. To learn more, see the hazardous materials guidance manual at <http://www.dep.state.ma.us/dep/bwp/dhm/dhmpubs.htm>.
- ✓ The town should look into adopting an ordinance for Hazardous Material Management for more information see - Hazardous Materials Management: A Community's Guide to Developing and Implementing A Local Regulation to Protect Drinking Water Resources at: <http://www.dep.state.ma.us/dep/brp/dws/dwspubs.htm#sp>
- ✓ Upgrade all oil/hazardous material storage tanks to incorporate proper containment and safety practices.

Planning:

- ✓ Work with local officials in Stow to include the facility IWPA in Aquifer Protection District Bylaws and to assist you in improving protection.
- ✓ Have a plan to address short-term water shortages and long-term water demands. Keep the phone number of a bottled water company readily available.
- ✓ Supplement the SWAP assessment with additional local information and incorporate it into water supply educational efforts. Use a potential contaminant threat inventory to assist in setting priorities, focusing inspections, and creating educational activities.

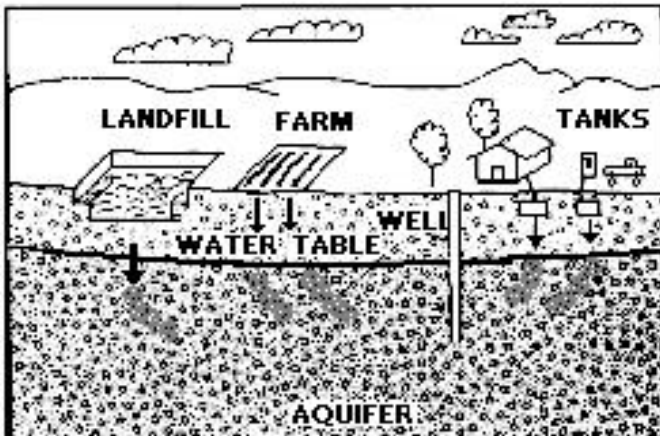


Figure 1: Example of how a well could become contaminated by different land uses and activities.

For More Information:

Contact **Josephine Yemoh-Ndi** in DEP's **Worcester Office** at **(508) 792-7650 x 5030** for more information and for assistance in improving current protection measures.

More information relating to drinking water and source protection is available on DEP's web site at:
www.state.ma.us/dep/brp/dws.

Copies of this assessment have been provided to the Public Water Supplier town boards, the town library and the local media.

Funding:

The Department's Wellhead Grant Protection Program provides funds to assist public water suppliers in addressing Wellhead protection through local projects. Protection recommendations discussed in this document may be eligible for funding under the 2001 "Wellhead Protection Grant Program". Please note that each program year the Department posts a new Request for Response for the Grant program (RFR)).

These recommendations are only part of your ongoing local drinking water source protection. Citizens and community officials should use this SWAP report to spur discussion of local drinking water protection measures.

Attachments:

- Map of the Public Water Supply (PWS) Protection Area.
- Recommended Source Protection Measures Factsheet
- Your Septic System Brochure
- Pesticide Use Factsheet